

## **REMARKS/ARGUMENTS**

Remarks/Arguments begin on page 10 of this paper.

### **REMARKS**

Claims 5 through 10 and 12 through 14 remain in the application. With independent claims 5 and 10 being amended to further distinctly claim and point out that which the applicant regards as his invention.

Claim 13 has been rejected under 35 U.S.C. §112, as being indefinite. The Examiner takes the position that the claim contains a typographical error in that it depends from itself. In that regard, claim 13 has been amended in accordance with the Examiner's suggestion to now dependent from claim 10.

Claims 5 through 8, 10 and 12 through 14 have been rejected under 35 U.S.C. §102(b) as being anticipated by Zettner et al. (U.S. Patent No. 5,617,937). On page 3 of the Office Action, the Examiner sets forth that Zettner et al. teaches all of the elements recited in all of the rejected claims.

Independent claim 5 has been amended to emphasize that the pulley unit is used around a shaft that extends from an alternator. The shaft has a free end and a base end. The pulley unit when mounted on the shaft has a free end side near the free end of the shaft and a base end side near the base end of the shaft. The claim then goes onto to describe that a first bearing is provided on the free end side of the pulley next to the one-way clutch near the free end of the shaft. The first bearing is in the form of a cylinder that includes a movable surface that is in rolling contact with the outer surface of the inner ring body. The claim also recites a second rolling bearing provided on the base end side of the pulley unit next to the one-way clutch in the

annular space near the base end of the shaft. The second rolling bearing is in the form of a ball bearing including a movable surface that is in rolling contact with the outer surface of the inner ring body.

In contrast, the Zettner patent in Fig. 1 teaches an arrangement made up of two cylindrical roller bearings. In this regard, the Zettner reference teaches away from that recited in the amended claim 5 in that Zettner provides two cylindrically shaped roller bearings whereas the invention as now provided for in claim 5 provides for one rolling bearing in the form of a cylindrical surface and a second rolling bearing in the form of a wall bearing. The reference also fails to recognize the problem solved by the present invention through the provision of the cylindrical bearing on the free end side of the pulley near the free end of the shaft and the ball bearing on the base end of the pulley near the base end of the shaft. The Zettner reference teaches the use of two cylindrical bearings and the mounting of the pulley, not on a shaft, but in a circumferentially vibrating system (col. 1, line 31).

Thus, the Zettner reference fails to appreciate the advantage provided by the subject invention. In the context of an alternator, a pulley unit according to the subject invention receives a heavy moment load from a belt load, particularly the free end side of the pulley near the free end of the shaft receives the heavier moment load than the other portions of the pulley. When the ball bearing is located on the free end side of the rotor, the radial clearance of the ball bearing is easily blocked up, which raises the need to widen the initial radial clearance of the ball bearing. On the contrary, when the radial clearance of the ball bearing is widened, the bearing starts to rattle more often, which reduces the rotational performance of the bearing.

In light of the above, and as provided for in claim 5, the cylindrical roller bearing is

located on the free end side of the shaft. In this way, a high load capacity of the roller bearing can solve the problem mentioned earlier concerning the conventional products that have two ball bearings.

Further, in the claimed invention, a ball bearing is located on the base end or alternator side of the shaft so that the axial distance between the alternator and the pulley unit can be reduced for downsizing. The axial location of the pulley unit is determined by the ball bearing, therefore, the axial distance between the alternator and the pulley unit can be strictly observed.

Thus, it is now appears that claim 5 is in condition for allowance and may no longer be rejected under 35 U.S.C. §102(b) as being anticipated by Zettner. Further, claim 5 may no longer be rejected as being anticipated or made obvious by any of the references of record taken alone or in combination.

Claims 6 through 9 can trace their dependence to claim 5 and as such incorporate the limitations of that claim. For at least these reasons, claims 6 through 9 are in condition for allowance and are neither anticipated nor made obvious by any of the references of record taken alone or in combination.

Claim 10 is an independent claim that has been rejected for the same reasons as claim 5. In that regard, claim 10 has been further amended to distinctly claim and point out that which the applicant regards as his invention. Claim 10 is similar to claim 5 with regard to the provision of the cylindrical and ball bearings, but also, adds that each of those bearings has a movable surface that is in rolling context with the outer surface of the inner ring and in rolling contact with the inner surface of the outer ring.

As stated before, the Zettner reference teaches away from this construction by providing two cylindrically shaped bearings and does not take into account or teach the unique configuration found in the use of a pulley unit on the shaft of an alternator.

Thus, it is respectfully submitted that claim 10 may no longer be rejected as being anticipated under 35 U.S.C. §102 by Zettner patent. Further, it is respectfully submitted that, as amended, claim 10 is anticipated nor made obvious by any of the references of record taken alone or in combination.

Claims 12 through 14 can trace their dependence to claim 10 and as such incorporate the limitations of that claim. For at least these reasons, it is respectfully submitted that claims 12 through 14 are likewise in condition for allowance. Further, it is respectfully submitted that claims 12 through 14 are neither anticipated nor made obvious by any of the references of record taken alone or in combination.

The prior art made of record and not relied upon has been noted and it is agreed that none of these references taken alone or in combination with the applied references anticipate or make obvious the subject matter now provided for in the amended claims.

The specification has been amended to make reference to new Figure 10, which is a block diagram illustrating how the pulley unit is mounted to an input shaft of an alternator. Support for the amendments and the new drawing can be found on pages 7 through 9 of the specification.

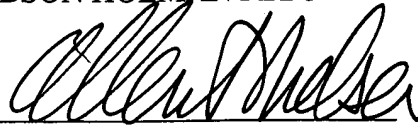
Thus, it now appears that the application is in condition for allowance. Should the Examiner have any questions after reviewing this Amendment, he is cordially invited to call the undersigned so that this case may receive an early notice of allowance.

Favorable consideration and the allowance are earnestly solicited.

Respectfully submitted,

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